

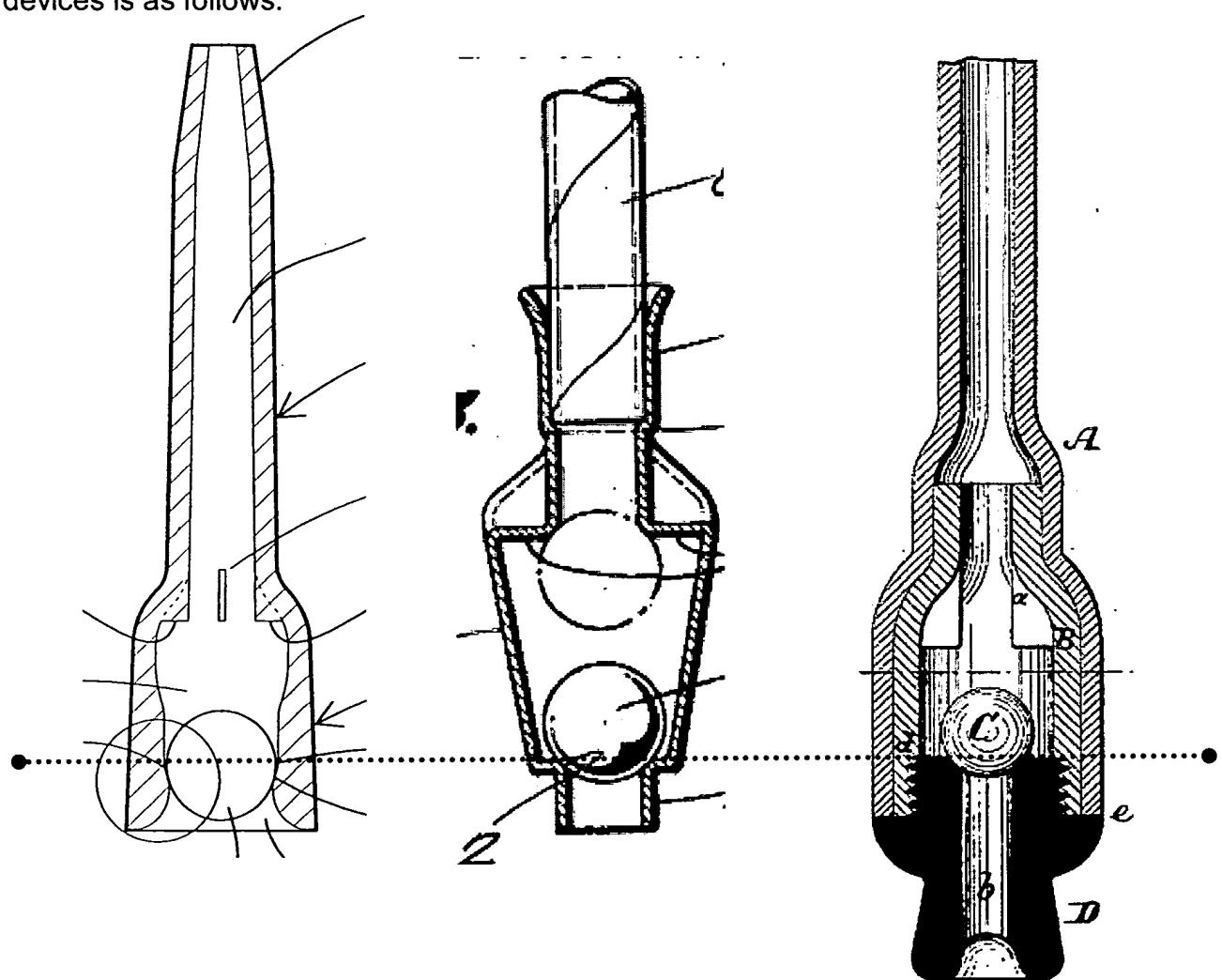
## REMARKS

Applicant has amended claims 1, 5, 6, 10, and 11 to more particularly describe the instant invention. Applicant has added new claim 14. Specifically, amended claims 1, 10, and 11 make clear that the upper tubular portion is tapered to facilitate entry into a liquid delivery tube. This amendment is supported by the paragraph beginning on page 7 and ending on page 8 of the original application. Claim 1 has also been amended to recite the valve seat tapering of original claim 5 and such claim has been cancelled. Claim 6 has been amended to depend directly from claim 1 and new claim 14 has been added to claim a preferred range valve seat taper angles. A marked-up version of the amended and new claims is enclosed. No new matter has been added by virtue of these amendments. Consideration of these new and amended claims is respectively requested.

Based upon Galetschky (U.S. 5,1813,285), the Examiner rejected claims 1-5, 7-10, 12, and 13 under 35 U.S.C. section 102(b). The Examiner also rejected these claims under 35 U.S.C. section 102(b) based upon Tatum (U.S. 342,478). Galetschky discloses a ball valve with an upper tubular portion that tapers outwardly to facilitate the insertion of a liquid delivery tube into the upper tubular portion. Tatum discloses a ball valve with an upper tubular portion that is tapered in the general location of where the tubular portion extends from the valve chamber. Applicant's amended claim 1 therefore requires the tapering to be inward and at the tubular portion's terminus to facilitate the insertion of the upper tubular portion into a liquid delivery tube. Galetschky discloses outward

tapering rather than inward tapering, and such outward tapering does not facilitate insertion of the upper tubular portion into a liquid delivery tube. Tatum discloses inward tapering, but the tapering is not at the upper tubular portions terminus. The tapering of the upper tubular portion of Tatum thus cannot aid in insertion of the upper tubular portion into a liquid delivery tube.

Amended claims 1, 10, and 11 also require the valve seat sidewalls to "taper inwardly from said valve chamber." The claimed valve seat thus requires a gradual reduction in the diameter of the sidewalls. Applicant respectfully asserts that the ordinary meaning of taper is a gradual decrease. A comparison of the devices is as follows:



The devices have been aligned at their valve seats along the dotted line, and as can be seen, the valve seats of both Galetschky and Tatum do not taper from the valve chamber but instead jut inward from the valve chamber and drop off at a near 90° angle. The Examiner himself identified the valve seats of these prior patents as "radius or chamfer" along corners. Such a radius or chamfer in a valve seat is inapposite to tapering of the valve seat and the advantages of tapering over a radius. See attached Declaration, ¶. Galetschky and Tatum thus fail to disclose such gradual reduction from the valve chamber, as each patent clearly shows a dramatic and non-gradual reduction from the valve chamber.

The prior patents also show that chamfered or radius valve seats were commonly used with liquid delivery apparatuses. The prior art thus teaches away from a valve seat that tapers from the valve chamber. For this reason and the aforementioned reasons, it is believed that Galetschky and Tatum do not anticipate or make obvious amended claim 1, 10, and 11, and these amended claims are, therefore, in condition for allowance. Claims 3-9, 12, 13, and new claim 14 are dependent upon claims 1 and 11 and it is believed that these claims are also in condition for allowance.

The Examiner rejected claims 6 and 11 as being unpatentable over Tatum in view of Woodward (U.S. 4,070,237). Woodward discloses a ball valve with a valve seat having an angle of less than 25°. Woodward is inapplicable for the following reasons:

- Woodward discloses that two-inch diameter ball is preferred, but a ball of such diameter is impracticable for use with a drinking apparatus.

(Woodward, Col. 5, lines 10-23);

- Woodward does not disclose a valve seat angle within the claimed range of less than 20.76° but greater than 14.76°;
- There is no teaching or motivation provided in Woodward or any other prior art provided by the Examiner to use a valve seat taper angle of less than 25° with ball valves used with drinking apparatuses; and
- The field of invention of Woodward is not that of drinking apparatuses but instead is that of automatic valves for controlling the vacuum in an enclosed container such as suction boxes for paper making machines.

(Woodward, Col. 1, lines 6-10).

For these reasons alone, it is believed that the Examiner has failed to make a *prima facie* case of obviousness of claims 6 and 11 based on Tatum in view of Woodward.

The dates of Woodward (issued in 1978) and Tatum (issued in 1886) also show that their combination is not obvious. In over a hundred years, no one has modified Tatum to have a valve seat angle within the claimed ranges. Moreover, in the over twenty years since the issuance of Woodward, no one has combined the valve seat angle of 25° taught in Woodward with the valve of Tatum.

The valve seat angle of Woodward particularly does not make an angle of less than 20.76° obvious. The angle of Woodward, 25°, is considerable larger than 20.76° considering that, as attested to in the attached Rule 132 Declaration, ¶5, valve seat angles even a few degrees higher than the claimed range, such as 23.76°, provided an unsatisfactory seal with the ball valve of the present

invention. Woodward itself discloses that the relationship of the ball size and orifice size depend upon the vacuum units. (Woodward, Col. 5, lines 10-23). Woodward therefore teaches away from using valve seat angles of around 25° with the valve of the present invention as such angles provide an unsatisfactory seal for the ball valves used with drinking apparatuses. For this reason and the above reasons, it is believed that claims 6 and 11 are patentable over Tatum in view of Woodward.

The Applicant respectfully requests these claims and the application as a whole be reconsidered and suggests that the application is now in condition for allowance. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account Number No. 50-3021 belonging to Brown Winick Law Firm.

Respectfully submitted,

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